Revanth Krishna Senthilkumaran

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○ github.com/revanthsenthil West Lafayette, IN
🎓 bit.ly/revanth-scholar **Permanent Resident of the USA**

EDUCATION

- **Purdue University** West Lafayette, IN
  Senior (4th Year), *Bachelor of Science in Computer Engineering; GPA: 3.59* *Aug 2021 – Dec 2024*
  - **Relevant Coursework**: Reinforcement Learning, Microprocessor Systems and Interfacing, Data Structures, Computer Architecture and Prototyping, OOP in C++, Probablistic Methods, Python for Data Science

EXPERIENCE

- **IDEAS Laboratory** West Lafayette, IN
  Undergraduate Research Assistant *Sep 2023 - Present*
  - **ARTEMIS**: Used a Unitree Go1 quadrupedal robot to demonstrate that robots can assist first-responders with AI-based triage labeling trained using a medical center ED dataset. Paper submitted to IEEE-IROS 2024.

- **Bechtel Innovation Design Center** West Lafayette, IN
  Printing and Prototyping Peer Mentor *Feb 2023 - Present*
  - **Makerspace**: Working with over 800 students every semester for projects with Metal and Non-metal Laser Cutting, 3D Printing: SLA, SLS, Carbon-fiber reinforced Onyx and resin, along with many personal projects.

- **Robotics, Perception and Manipulation Laboratory** Minneapolis, MN
  Undergraduate Research Assistant *Summer 2023*
  - **Spot**: Developed new method of robust data collection using Boston Dynamics robot quadruped Spot for learning from demonstration on manipulation tasks with language commands for a vision-language model (Per-Act). Project involved Python, ROS, Simulation, Camera Transformations, Voxels, Boston Dynamics API.

- **SMART Laboratory** West Lafayette, IN
  Undergraduate Research Assistant *Feb 2022 - Aug 2023*
  - **IEEE-IROS 2023**: Established novel method of using UAVs to inspect surfaces autonomously with learning from expert demonstration **accepted** to IEEE-IROS 2023: **UPPLIED**. Used WeBots simulation environment, ROS, VICON camera system to perform real world experiments.
  - **IEEE-TAC**: Paper under review at IEEE-TAC journal: **MOCAS** Dataset - mobile robot SMARTmBOT used to create a multimodal dataset with user studies for simultaneous cognitive workload assessment.

- **Air Force Research Laboratory** West Lafayette, IN
  Undergraduate Researcher *Fall 2022 - Spring 2023*
  - **NXP HoverGames3 Team Lead**: Led a team of students to compete in the NXP HoverGames3 UAV sustainability contest. Coordinated with the Horticulture department and proposed a method of using a drone with an RGB-depth camera to investigate and inspect lettuce plants grown on vertical farming, including shades of green, water content and gas sensing.
  - **IEEE Autonomous UAV Challenge 2023**: Worked with rover-tracking team to use a UAV to compete in a challenge, where a UAV tracks and follows a ground rover through obstacles.

- **The Autonomous Robotics Club of Purdue** West Lafayette, IN
  President and Former Project Manager of Piano Hand *Sep 2021 - Present*
  - **President**: Representing the largest robotics club of Purdue for the engineering councils for funding pitches, networking, forming club collaborations and organizing workshops and seminars. Co-running a robotics and autonomy expo, RISE, where student organizations and research laboratories present and demo work.
  - **Piano Hand**: Led a team to build an autonomous human-like hand that can read sheet music and play the piano.

PROJECTS

- **Revo BP-1**: Building a bipedal robot with μROS with RTOS from scratch, incl. CAD, 3D printing and laser cutting.
- **Crazyflie 2.0**: Experimenting with Swarm UAV systems using multiple Crazyflie 2.0 UAVs with the Bitcraze VM.

SKILLS

Languages: Python, C++, C, Assembly, Verilog, SQL **Technologies**: Git, ROS, Linux, Docker, MATLAB